
Archives of Virology

Continuation of
Archiv für die gesamte Virusforschung

Edited by

E. Norrby, Stockholm

W. P. Rowe, Bethesda, Md.

C. Scholtissek, Giessen

D. A. J. Tyrrell, Harrow

J. Vilček, New York, N.Y. (Editor-in-Chief)

Vol. 51, 1976

Springer-Verlag
Wien New York



Archives of Virology

Continuation of

Archiv für die gesamte Virusforschung

Editorial Advisory Board

- | | |
|--------------------------------------|--------------------------------|
| S. Baron, Galveston, Tex. | W. Plowright, London |
| C. Basílico, New York, N.Y. | B. Roizman, Chicago, Ill. |
| V. H. Bonifas, Lausanne | W. Schäfer, Tübingen |
| J. Casals, New Haven, Conn. | J. J. Skehel, London |
| R. M. Chanock, Bethesda, Md. | F. Steck, Bern |
| W. Doerfler, Köln | A. Sugiura, Tokyo |
| H. Hanafusa, New York, N.Y. | J. Svoboda, Praha |
| D. H. Harter, Chicago, Ill. | H. M. Temin, Madison, Wis. |
| A. S. Huang, Boston, Mass. | A. Vaheri, Helsinki |
| W. K. Joklik, Durham, N. C. | J. D. Verlinde, Leiden |
| M. Kitaoka, Tokyo | V. Vonka, Praha |
| K. Maramorosch, New Brunswick, N. J. | A. P. Waterson, London |
| M. Matumoto, Tokyo | R. Weil, Genève |
| F. A. Murphy, Atlanta, Ga. | K. E. Weiss, Onderstepoort |
| M. Mussgay, Tübingen | H. A. Wenner, Kansas City, Mo. |
| M. B. A. Oldstone, La Jolla, Calif. | V. M. Zhdanov, Moscow |
| M. N. Oxman, Boston, Mass. | |

Editorial Assistant: F. Heinz, Wien

The exclusive copyright for all languages and countries, including the right for photo-mechanical and any other reproductions including microform is transferred to the publisher.

Alle Rechte, einschließlich das der Übersetzung in fremde Sprachen und das der photo-mechanischen Wiedergabe oder einer sonstigen Vervielfältigung, auch in Mikroform, vorbehalten.

© 1976 by Springer-Verlag / Wien

Contents: Vol. 51

No. 1—2

Brief Review

Klein, R. J.: Pathogenetic Mechanisms of Recurrent Herpes Simplex Virus Infections 1

Original Papers

Lvov, D. K., Sidorova, G. A., Gromashevsky, V. L., Kurbanov, M., Skvoztsova, L. M., Gofman, Yu. P., Berezina, L. K., Klimenko, S. M., Zakharyan, V. A., Aristova, V. A., Neronov, V. M.: Virus "Tamdy"—

A New Arbovirus, Isolated in the Uzbek S.S.R. and Turkmen S.S.R. from Ticks <i>Hyalomma asiaticum asiaticum</i> Schulze et Schlottke, 1929, and <i>Hyalomma plumbeum plumbeum</i> Panzer, 1796	15
Jahrling, P. B., Navarro, E., Scherer, W. F.: Interferon Induction and Sensitivity as Correlates to Virulence of Venezuelan Encephalitis Viruses for Hamsters	23
Drescher, J.: Simultaneous Determination of Influenza Virus Antihemagglutinin and Antineuraminidase Antibodies by Means of the Combined Photometric ACU Method. I. Conduct of Test	37
Arstila, P.: Quantitative Studies on Adsorption, Elution, and Haemagglutination of Vesicular Stomatitis Virus	51
Wutzler, P., Färber, I., Sprössig, M., Schweizer, H., Thiel, K.-D., Schneider, J.: Herpesvirus-induzierte Autoantikörperbildung im Tierexperiment Herpesvirus-Induced Autoantibodies in Animals	59
Kurogi, H., Inaba, Y., Takahashi, E., Sato, K., Omori, T., Miura, Y., Goto, Y., Fujiwara, Y., Hatano, Y., Kodama, K., Fukuyama, S., Sasaki, N., Matumoto, M.: Epizootic Congenital Arthrogryposis-Hydranencephaly Syndrome in Cattle: Isolation of Akabane Virus from Affected Fetuses	67
Grodums, E. I.: Ultrastructure of Mouse Periventricular and Choroid Plexus Tissues in Experimental Vesicular Stomatitis Virus Infection	75
Hilfenhaus, J., Damm, H., Karges, H. E., Manthey, K. F.: Growth Inhibition of Human Lymphoblastoid Daudi Cells <i>in vitro</i> by Interferon Preparations	87
Akov, Y.: Some Properties of Togavirus Hemagglutinin Studied with the Aid of Kaolin-Adsorbed Virus	99
Matheka, H. D., Coggins, L., Shively, J. N., Norcross, N. L.: Purification and Characterization of Equine Infectious Anemia Virus	107
Porwit-Bóbr, Zofia, Ochalek, T.: The Effect of Influenza Virus Infection on the Agglutinability by Concanavalin A of Polyoma-Transformed BHK-21 Cells	115
Joo, H. S., Donaldson-Wood, C. R., Johnson, R. H.: Observations on the Pathogenesis of Porcine Parvovirus Infection	123
Valiček, L., Šmíd, B.: Envelopment and the Envelopes of Infectious Bovine Rhinotracheitis Virus in Ultrathin Sections	131
Fenner, F.: The Classification and Nomenclature of Viruses. Summary of Results of Meetings of the International Committee on Taxonomy of Viruses in Madrid, September 1975	141
Brief Reports	
Nain, M., Kohlhage, H.: Effects of Splenectomy on Production of Poly I:C Induced Serum Interferon in Rabbits	151
Lvov, D. K., Sazonov, A. A., Gromashevsky, V. L., Skvortsova, T. M., Beresina, L. K., Aristova, V. A., Timofeeva, A. A., Zakharyan, V. A.: "Paramushir" Virus, A New Arbovirus, Isolated from Ixodid Ticks in Nesting Sites of Birds on the Islands in the North-Western Part of the Pacific Ocean Basin	157

Barbanti-Brodano, G., Lambertini, L., Tampieri, M., Minelli, G. P., Portolani, M., Zerbini, M.: Differences between BK Virus and Simian Virus 40 Structural Proteins Analysed by Isoelectric Focusing	163
Communiqué	168

No. 3

Brief Review

Butterworth, B. E., Grunert, R. R., Korant, B. D., Lonberg-Holm, K., Yin, F. H.: Replication of Rhinoviruses	169
---	-----

Original Papers

Rossi, C. R., Kiesel, G. K.: Antibody Class and Complement Requirement of Neutralizing Antibodies in the Primary and Secondary Antibody Response of Cattle to Infectious Bovine Rhinotracheitis Virus Vaccine	191
Stebbing, N., Grantham, C. A.: Anti-Viral Activity against Encephalomyocarditis Virus and Semliki Forest Virus and Acute Toxicity of Poly I and Poly C Administered Sequentially to Mice	199
Weil, M. L., Imagawa, D. T.: Measles Virus: Study of Induced Transfer of Biological Properties. II. Fluorescence Studies on Rescue of Neurotropic Strain in Cell Culture	217
Gánti, T., Mécs, I., Kótai, A.: Potentiation of Poly I:C Induced Viral Resistance by Polycationic Modified Polypeptides	227
Soike, K. F., Iatropoulis, M., Siegl, G.: Infection of Newborn and Fetal Hamsters Induced by Inoculation of Lu III Parvovirus	235

Brief Report

Hietanen, T. E., Wise, K. S.: Avian Influenza Virus Adapted to Grow in L 1210 Mouse Leukemia <i>in vitro</i>	243
---	-----

No. 4

Simizu, B., Wagatsuma, M., Oya, A., Hanaoka, F., Yamada, M.: Inhibition of Cellular DNA Synthesis in Hamster Kidney Cells Infected with Western Equine Encephalitis Virus	251
Schaffer, F. L., Soergel, M. E., Straube, D. C.: Survival of Airborne Influenza Virus: Effects of Propagating Host, Relative Humidity, and Composition of Spray Fluids	263

Kimura, Y., Ito, Y., Nagata, I., Yoshii, S., Maeno, K., Matsumoto, T.: Surface Antigens on HeLa Cells Persistently Infected with HVJ (Sendai Virus)	275
Tomori, O., Fabiyi, A., Murphy, F.: Characterization of Orungo Virus, an Orbivirus from Uganda and Nigeria	286
Meloen, R. H.: Localisation on Foot-and-Mouth Disease Virus (FMDV) of an Antigenic Deficiency Induced by Passage in BHK Cells	299
Walder, R., Liprandi, F.: Kinetics of Heat Inactivation of Venezuelan Equine Encephalomyelitis Virus	307
Adair, B. McC., McFerran, J. B.: Comparative Serological Studies with Malaysian Adenoviruses	319
Lecatsas, G., Schoub, B. D., Prozesky, O. W.: Development of a New Human Polyoma Virus Strain (MG)	327
Arai, Y. T., Kondo, A., Suzuki, K.: Demonstration of Non-Infectious Hemagglutinating Particles of Rabies Virus and Isolation of the Hemagglutinin by Disruption of the Virion with Nonidet P-40	335
Wilson, H. J., Goodman, R. M., Israel, H. W.: Pinwheel Inclusions in Morphogenesis: A Possible Alternative to Induction by Viruses	347

Brief Reports

Hondo, R., Shibuta, H., Matumoto, M.: An Improved Plaque Assay for Varicella Virus	355
Müller, G., Nielsen, G.: The Influence of Negative Staining on the Infectivity of Vaccinia Virus	361
Müller, G.: Disaggregation of Vaccinia Virus with Ultrasonic Cleaners	365
Announcement	368

Listed in Current Contents

Author Index

- Adair, B. McC., McFerran, J. B.: Comparative Serological Studies with Mammalian Adenoviruses. 319.
- Akov, Y.: Some Properties of Togavirus Hemagglutinin Studied with the Aid of Kaolin-Adsorbed Virus. 99.
- Arai, Y. T., Kondo, A., Suzuki, K.: Demonstration of Non-Infectious Hemagglutinating Particles of Rabies Virus and Isolation of the Hemagglutinin by Disruption of the Virion with Nonidet P-40. 335.
- Aristova, V. A. s. Lvov, D. K.
- Arstila, P.: Quantitative Studies on Adsorption, Elution, and Haemagglutination of Vesicular Stomatitis Virus. 51.
- Barbanti-Brodano, G., Lambertini, L., Tampieri, M., Minelli, G. P., Portolani, M., Zerbini, M.: Differences between BK Virus and Simian Virus 40 Structural Proteins Analysed by Isoelectric Focusing. (Brief Report) 163.
- Beresina, L. K. s. Lvov, D. K.
- Butterworth, B. E., Grunert, R. R., Korant, B. D., Lonberg-Holm, K., Yin, F. H.: Replication of Rhinoviruses. (Brief Review) 169.
- Coggins, L. s. Matheka, H. D.
- Damm, H. s. Hilfenhaus, J.
- Donaldson-Wood, C. R. s. Joo, H. S.
- Drescher, J.: Simultaneous Determination of Influenza Virus Antihemagglutinin and Antineuraminidase Antibodies by Means of the Combined Photometric ACU Method. I. Conduct of Test. 37.
- Fabi, A. s. Tomori, O.
- Färber, I. s. Wutzler, P.
- Fenner, F.: The Classification and Nomenclature of Viruses. Summary of Results of Meetings of the International Committee on Taxonomy of Viruses in Madrid, September 1975. 141.
- Fukuyama, S. s. Kurogi, H.
- Fujiwara, Y. s. Kurogi, H.
- Gánti, T., Mécs, I., Kótai, A.: Potentiation of Poly I:C Induced Viral Resistance by Polycationic Modified Polypeptides. 227.
- Gofman, Yu. P. s. Lvov, D. K.
- Goodmann, R. M. s. Wilson, H. J.
- Goto, Y. s. Kurogi, H.
- Grantham, C. A. s. Stebbing, N.
- Grodums, E. I.: Ultrastructure of Mouse Periventricular and Choroid Plexus Tissues in Experimental Vesicular Stomatitis Virus Infection. 75.
- Gromashevsky, V. L. s. Lvov, D. K.
- Grunert, R. R. s. Butterworth, B. E.
- Hanaoka, F. s. Simizu, B.
- Hatano, Y. s. Kurogi, H.
- Hietanen, T. E., Wise, K. S.: Avian Influenza Virus Adapted to Grow in L 1210 Mouse Leukemia *in vitro*. (Brief Report) 243.
- Hilfenhaus, J., Damm, H., Karges, H. E., Manthey, K. F.: Growth Inhibition of Human Lymphoblastoid Daudi Cells *in vitro* by Interferon Preparations. 87.
- Hondo, R., Shibuta, H., Matumoto, M.: An Improved Plaque Assay for Varicella Virus. (Brief Report) 355.
- Iatropoulis, M. s. Soike, K. F.
- Imagawa, D. T. s. Weil, M. L.
- Inaba, Y. s. Kurogi, H.
- Israel, H. W. s. Wilson, H. J.
- Ito, Y. s. Kimura, Y.
- Jahrling, P. B., Navarro, E., Scherer, W. F.: Interferon Induction and Sensitivity as Correlates to Virulence of Venezuelan Encephalitis Viruses for Hamsters. 23.
- Johnson, R. H. s. Joo, H. S.
- Joo, H. S., Donaldson-Wood, C. R., Johnson, R. H.: Observations on the Pathogenesis of Porcine Parvovirus Infection. 123.
- Karges, H. E. s. Hilfenhaus, J.
- Kiesel, G. K. s. Rossi, C. R.
- Kimura, Y., Ito, Y., Nagata, I., Yoshii, S., Maeno, K., Matsumoto, T.: Surface Antigens on Hela Cells Persistently Infected with HVJ (Sendai Virus). 275.
- Klein, R. J.: Pathogenetic Mechanisms of Recurrent Herpes Simplex Virus Infections. (Brief Review) 1.
- Klimenko, S. M. s. Lvov, D. K.
- Kodama, K. s. Kurogi, H.
- Kohlhage, H. s. Nain, M.
- Kondo, A. s. Arai, Y. T.
- Korant, B. D. s. Butterworth, B. E.
- Kótai, A. s. Gánti, T.
- Kurbanov, M. s. Lvov, D. K.
- Kurogi, H., Inaba, Y., Takahashi, E., Sato, K., Omori, T., Miura, Y., Goto, Y., Fujiwara, Y., Hatano, Y., Kodama, K., Fukuyama, S., Sasaki, N., Matumoto, M.: Epizootic Con-

- genital Arthrogryposis-Hydranencephaly Syndrome in Cattle: Isolation of Akabane Virus from Affected Fetuses. 67.
- Lambertini, L. s. Barbanti-Bordano, G.
 Lecatsas, G., Schoub, B. D., Prozesky, O. W.: Development of a New Human Polyoma Virus Strain (MG). 327.
- Liprandi, F. s. Walder, R.
 Lonberg-Holm, K. s. Butterworth, B. E.
 Lvov, D. K., Sazonov, A. A., Gromashevsky, V. L., Skvortsova, T. M., Beresina, L. K., Aristova, V. A., Timofeeva, A. A., Zakharyan, V. A.: „Paramushir“ Virus, A New Arbovirus Isolated from Ixodid Ticks in Nesting Sites of Birds on the Islands in the North-Western Part of the Pacific Ocean Basin. (Brief Report) 157.
- Lvov, D. K., Sidorova, G. A., Gromashevsky, V. L., Kurbanov, M., Skvoztsova, L. M., Gofman, Yu. P., Berezina, L. K., Klimenko, S. M., Zakharyan, V. A., Aristova, V. A., Neronov, V. M.: Virus „Tamdy“ — A New Arbovirus, Isolated in the Uzbek S.S.R. and Turkmen S.S.R. from Ticks *Hyalomma asiaticum asiaticum* Schulze et Schlottke, 1929, and *Hyalomma plumbeum plumbeum* Panzer, 1796. 15.
- Maeno, K. s. Kimura, Y.
 Manthey, K. F. s. Hilfenhaus, J.
 Matheka, H. D., Coggins, L., Shively, J. N., Norcross, N. L.: Purification and Characterization of Equine Infectious Anemia Virus. 107.
- Matsumoto, T. s. Kimura, Y.
 Matumoto, M. s. Hondo, R.
 Matumoto, M. s. Kurogi, H.
 McFerran, J. B. s. Adair, B. McC.
 Mécs, I. s. Gánti, T.
 Meloen, R. H.: Localisation on Foot-and-Mouth Disease Virus (FMDV) of an Antigenic Deficiency Induced by Passage in BHK Cells. 299.
- Minelli, G. P. s. Barbanti-Brodano, G.
 Miura, Y. s. Kurogi, H.
 Müller, G.: Disaggregation of Vaccinia Virus with Ultrasonic Cleaners. (Brief Report) 365.
- Müller, G., Nielsen, G.: The Influence of Negative Staining on the Infectivity of Vaccinia Virus. (Brief Report) 361.
- Murphy, F. s. Tomori, O.
- Nain, M., Kohlhage, H.: Effects of Splenectomy on Production of Poly I:C induced Serum Interferon in Rabbits. (Brief Report) 151.
- Nagata, I. s. Kimura, Y.
 Navarro, E. s. Jahrling, P. B.
 Neronov, V. M. s. Lvov, D. K.
 Nielsen, G. s. Müller, G.
 Norcross, N. L. s. Matheka, H. D.
- Ochalek, T. s. Porwit-Bóbr, Zofia.
 Omori, T. s. Kurogi, H.
 Oya, A. s. Simizu, B.
- Portolani, M. s. Barbanti-Brodano, G.
 Porwit-Bóbr, Zofia, Ochalek, T.: The Effect of Influenza Virus Infection on the Agglutinability by Concanavalin A of Polyoma-Transformed BHK 21 Cells. 115.
- Prozesky, O. W. s. Lecatsas, G.
- Rossi, C. R., Kiesel, G. K.: Antibody Class and Complement Requirement of Neutralizing Antibodies in the Primary and Secondary Antibody Response of Cattle to Infectious Bovine Rhinotracheitis Virus Vaccine. 191.
- Sasaki, N. s. Kurogi, H.
 Sato, K. s. Kurogi, H.
 Sazonov, A. A. s. Lvov, D. K.
 Schaffer, F. L., Soergel, M. E., Straube, D. C.: Survival of Airborne Influenza Virus: Effects of Propagating Host, Relative Humidity, and Composition of Spray Fluids. 263.
- Scherer, W. F. s. Jahrling, P. B.
 Schneider, J. s. Wutzler, P.
 Schoub, B. D. s. Lecatsas, G.
 Schweizer, H. s. Wutzler, P.
 Shibuta, H. s. Hondo, R.
 Shively, J. N. s. Matheka, H. D.
 Sidorova, G. A. s. Lvov, D. K.
 Siegl, G. s. Soike, K. F.
 Simizu, B., Wagamatsu, M., Oya, A., Hanaoka, F., Yamada, M.: Inhibition of Cellular DNA Synthesis in Hamster Kidney Cells Infected with Western Equine Encephalitis Virus. 251.
- Skvortsova, T. M. s. Lvov, D. K.
 Skvoztsova, L. M. s. Lvov, D. K.
 Šmid, B. s. Valiček, L.
 Soergel, M. E. s. Schaffer, F. L.
 Soike, K. F., Iatropoulis, M., Siegl, G.: Infection of Newborn and Fetal Hamsters Induced by Inoculation of Lu III Parvovirus. 235.
- Sprössig, M. s. Wutzler, P.

- Stebbing, N., Grantham, C. A.: Anti-Viral Activity against Encephalomyocarditis Virus and Semliki Forest Virus and Acute Toxicity of Poly I and Poly C Administered Sequentially to Mice. 199.
- Straube, D. C. s. Schaffer, F. L.
Suzuki, K. s. Arai, Y. T.
- Takahashi, E. s. Kurogi, H.
Tampieri, M. s. Barbanti-Brodano, G.
Thiel, K.-D. s. Wutzler, P.
Timofeeva, A. A. s. Lvov, D. K.
Tomori, O., Fabiyi, A., Murphy, F.: Characterization of Orungo Virus, an Orbivirus from Uganda and Nigeria. 285.
- Valiček, L., Šmid, B.: Envelopment and the Envelopes of Infectious Bovine Rhinotracheitis Virus in Ultrathin Sections. 131.
- Wagamatsu, M. s. Simizu, B.
Walder, R., Liprandi, F.: Kinetics of Heat Inactivation of Venezuelan Equine Encephalomyelitis Virus. 307.
- Weil, M. L., Imagawa, D. T.: Measles Virus: Study of Induced Transfer of Biological Properties. II. Fluorescence Studies on Rescue of Neurotropic Strain in Cell Culture. 217.
- Wilson, H. J., Goodman, R. M., Israel, H. W.: Pinwheel Inclusions in Morphogenesis: A Possible Alternative to Induction by Viruses. 347.
- Wise, K. s. Hietanen, T. E.
Wutzler, P., Färber, I., Sprössig, M., Schweizer, H., Thiel, K.-D., Schneider, J.: Herpesvirus-induzierte Autoantikörperbildung im Tierexperiment. — Herpesvirus-Induced Autoantibodies in Animals. 59.
- Yamada, M. s. Simizu, B.
Yin, F. H. s. Butterworth, B. E.
Yoshii, S. s. Kimura, Y.
- Zakharyan, V. A. s. Lvov, D. K.
Zerbini, M. s. Barbanti-Brodano, G.